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<p>(21) International Application Number: PCT/FI00/00374 (22) International Filing Date: 28 April 2000 (28.04.00) (30) Priority Data: 990976 29 April 1999 (29.04.99) FI (71) Applicant (for all designated States except US): SUOMEN POSTI OY [FI/FI]; Mannerheiminaukio 1 A, FIN-00100 Helsinki (FI). (72) Inventors; and (75) Inventors/Applicants (for US only): TIKKANEN, Matti [FI/FI]; Suomen Posti Oy, Mannerheiminaukio 1 A, FIN-00100 Helsinki (FI). NOUSIAINEN, Pekka [FI/FI]; Suomen Posti Oy, Mannerheiminaukio 1 A, FIN-00100 Helsinki (FI). (74) Agent: BERGGREN OY AB; P.O. Box 16, FIN-00101 Helsinki (FI).</p>		<p>(81) Designated States: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).</p> <p>Published With international search report. In English translation (filed in Finnish).</p>
<p>(54) Title: METHOD AND APPARATUS FOR PRE-WORK OF POSTAL DELIVERIES</p> <div data-bbox="422 1113 1120 1722"></div> <p>(57) Abstract</p> <p>The present invention relates to a method and apparatus for pre-work of postal deliveries. The entire production chain is based on an alphabetical sorting system in which the deliveries are sorted directly to the delivery order.</p>		

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## Method and apparatus for pre-work of postal deliveries

The present invention relates to a method and apparatus for pre-work of postal deliveries.

- 5 In the traditional pre-work model of postal deliveries, the route sorting field includes one shelf compartment for every delivery route. The delivery man collects the deliveries from the route sorting. The deliveries are sorted into shelf compartments of a post according to street, road or number; one post may include 30 – 40 shelf compartments. One shelf compartment will receive about 30 – 40 deliveries.
- 10 The deliveries are found in the shelf compartment in disorder. Then the deliveries and the delivery order list are taken from the shelf, and the deliveries are arranged into delivery order with the help of the delivery order list. This pre-work phase of delivery is time consuming and calls for professional skills, requiring a long time of initiation from new employees.
- 15 With the method and apparatus of the present invention, it is possible to considerably accelerate and increase the efficiency of the time used for the pre-work of delivery. The entire production chain is based on an alphabetical sorting system, in which deliveries are sorted directly to the order of delivery.

It is characteristic of the method of the invention that it contains the following steps:

- 20 - deliveries are sorted according to delivery routes, or they are otherwise grouped into alphabetical or numerical order by using address data, such as names and numbers of roads, streets, houses and dwellings;
- deliveries coming from the alphabetical sorting, a letter sorting machine, or directly from the sender are sorted into compartments according to sorting points in
- 25 alphabetical or numerical order with the help of a delivery post list or display on the side of the compartments;
- the delivery post list is turned or changed, or the text on the delivery post display is changed so that the delivery order for the delivery route will appear;
- from the shelf compartments, the deliveries are collected into bundles in the order
- 30 of delivery indicated by numbers or other markings.

It is characteristic of the apparatus of the invention that it comprises a set of shelves, the side of which is provided with a list containing information about the delivery point, the list being turned for indicating the delivery order, or that it is a set of shelves, the side of which is provided with a display connected to a data system, the display being provided with information about the delivery post from the data system real-time or updated, and indicating the delivery order.

Figure 1 shows a set of shelves according to the method of the invention used in the alphabetical sorting of a post so that the extent of the alphabetical field required is achieved by combining the said sets of shelves;

Figure 2 shows an alphabetical set of shelves used in the pre-work of a delivery route according to the method of the invention; and

Figure 3 shows a delivery post list used in the method of the invention.

The method of the invention for pre-work of postal deliveries is based on an alphabetical sorting system. The post includes sets of shelves 1 for alphabetical sorting in accordance with Fig. 1; the extent of the alphabetical sorting field required at any given time is achieved by combining these sets of shelves. In the alphabetical sorting field, the shelves are found in alphabetical order, for example, according to names of roads and streets, and houses are, for example, indicated in an ascending numerical order. The delivery routes are divided into sectors. There may be several sectors on one route, preferably from one to five. In alphabetical sorting, there may be several shelf compartments for one sector.

In post centres, deliveries are sorted into bundles according to agreed letter combinations, or to street or road names. The deliveries in the bundle are sorted in the part of the alphabetical sorting field, in which the corresponding alphabets are found. The bundle may also be directed straight to the delivery route, past the alphabetical sorting.

The delivery man collects the deliveries belonging to the sector in hand from the alphabetical sorting. Fig. 2 shows an alphabetical set of shelves 2 used in the pre-work of a delivery route. The deliveries are sorted into shelf compartments 3 on the basis of a delivery post list on the side 4 of the row of shelves, the streets being preferably found in alphabetical order, and houses and dwellings in ascending numerical order. In the pre-work shelf for the route, the sorting is preferably made one alphabetic set of shelves 2 at a time. Fig. 3 presents an embodiment of the delivery post list 5.

Magazines, letters and bulk printed matter may be received from the sender pre-sorted into alphabetical order and ascending numerical order so that it is very quick to sort them into the shelf compartments. Also standard-sized deliveries to be sorted with sorting machines may arrive in the pre-work post pre-arranged so that it is easy  
5 and quick to put these into the right shelf compartments.

After the sorting, the delivery post lists 5 are turned so that the delivery order for the delivery route will appear. The deliveries are collected into bundles from the shelf compartments in numerical order, for example, from the smallest to the biggest. Also other symbols easy to read, for example letters, may be used.

10 Coloured stickers or other markings may be used in the delivery post lists 5 to indicate changes in delivery, for example, changes of address, temporary change of address, or interruption of delivery, or other matters to be taken into consideration, such as prohibition of delivery of advertisements.

15 In the method disclosed above, the shelf fixtures 1, 2 may be connected to the data systems guiding the production. In this case, the delivery post list 5 is replaced by a display attached to the alphabetical set of shelves 2 so that it is possible to maintain information about both delivery posts real-time.

When bulk printed matter is concerned, the data system also makes it possible to directly indicate to which delivery posts certain deliveries are to be placed. So for example, it is not necessary for a sender of magazines to put addresses to each and  
20 every delivery, but the deliverer is provided with a register of recipients into which the recipients of the delivery are marked.

The description shows a preferable embodiment of the invention. However, the invention is not restricted to this embodiment only, but different features of the invention may be modified in the extent defined in the claims without leaving the  
25 scope of the invention.

## Claims

1. Method for pre-work of postal deliveries, characterised in that the method contains the following steps:
  - deliveries are sorted according to delivery routes or otherwise divided into alphabetical or numerical order by using address data, such as names and numbers of roads, streets, houses and dwellings;
  - deliveries coming from the alphabetical sorting, a letter sorting machine, or directly from the sender in alphabetical or numerical order are sorted into compartments (3) according to delivery posts with the help of a delivery post list (5) or display on the side of the compartments;
  - the delivery post list (5) is turned or changed, or the text on the delivery post display is changed so that the delivery order for the delivery route will appear;
  - deliveries are collected into bundles from the shelf compartments (3) in the delivery order indicated by numbers or some other markings.
2. Method according to claim 1, characterised in that, besides address information, the delivery point list (5) or display includes other information, such as information about changes in delivery.
3. Method according to claim 1 or 2, characterised in that the delivery post list (5) is a display connected to the data system, which is updated real-time.
4. Method according to claim 3, characterised in that the delivery post list (5) includes information about delivery posts for bulk printed matter, or the data system provides this information directly to the delivery post list so that the delivery itself has no address.
5. Apparatus used in the method of one of the claims 1 – 4, characterised in that the apparatus comprises a set of shelves (2) with a list containing information about the delivery post provided on the side so that the list is turned for indicating the delivery order.
6. Apparatus used in the method of one of the claims 1 – 4, characterised in that the apparatus comprises a set of shelves (2) with a display connected to a data system on the side, the display being provided with information about the delivery post either real-time or updated and indicating the delivery order.

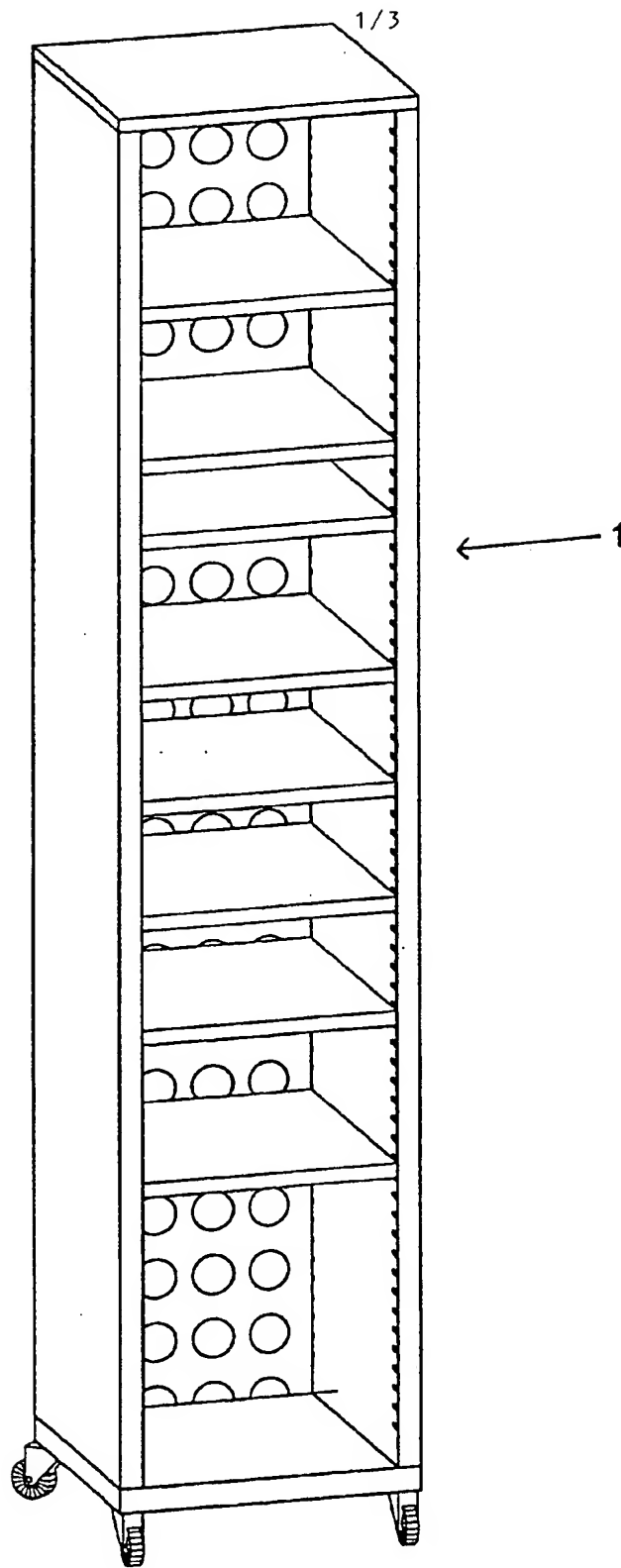
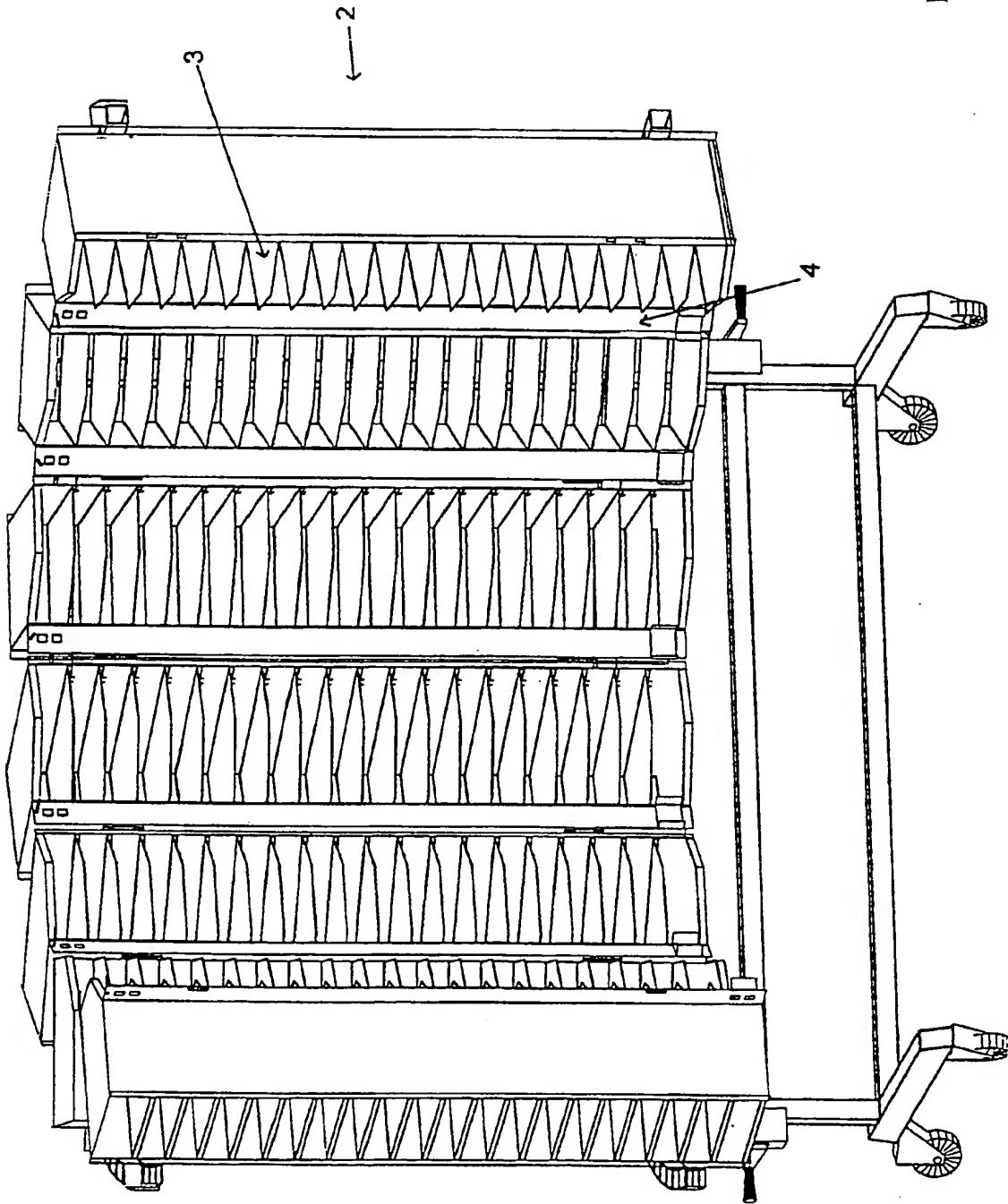


Fig. 1



Fig. 2



3/3

5 →

<b>BRAHE STREET</b>		<b>2</b>
KIVILUOTO	HELM KAISA KERTTU KIMMO SAARA SELJA	
01 FINLAND		
		06570774
<b>BRAHE STREET</b>		<b>3</b>
HENRIKSSON	PASI	
HIMANEN	VEIKKO	
LAITINEN	MAIJA	
SALONEN	INARI	
VASARA	SARI	
01 FINLAND		
		06572905
<b>BRAHE STREET</b>		<b>5</b>
KARVINEN	PASI	
LAITINEN	ANTTI LEEVI RIITTA SALME SARI	
01 FINLAND		
		18591814
<b>BRAHE STREET</b>		<b>10</b>
HOLOPAINEN	ANNE	
KARTTUNEN	MARKKU	
SIISKONEN	MARJA SILJA SONJA	
01 FINLAND		
		11929393

<b>BRAHE STREET</b>		<b>2</b>
1		
<b>BRAHE STREET</b>		<b>3</b>
5		
<b>BRAHE STREET</b>		<b>5</b>
6		
<b>BRAHE STREET</b>		<b>10</b>
4		

Fig. 3

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/FI 00/00374

## A. CLASSIFICATION OF SUBJECT MATTER

IPC7: B07C 7/02, B07C 3/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: B07C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4254875 A (E. VARHELYI), 10 March 1981 (10.03.81) --	1-6
A	US 4739479 A (M. TAMADA ET AL), 19 April 1988 (19.04.88) --	1-6
A	US 5833076 A (L.C. HARRES ET AL), 10 November 1998 (10.11.98) -- -----	1-6

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